HARVEST

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INFORMATION TELEPHONE (312) 824-2650

NORTHERN ILLINOIS COMPUTER SOCIETY EXECUTIVE

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Jack Topham 312-577-2054	Don Abbs 312-742-7072
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IMPORTANT ADDRESSES

Membership, general information	NICS Box 547 Arlington Heights, Il 60006
Harvest Journal	Terry Tufts 1015 S Ridge Ave Arlington Heights, Il 60005

PUBLICITY

Stan Apolinski	312-823-5387

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COMPUTERS SUPPORTED

NICS was originally formed as an Apple Users Group in 1978. It now has extended its support to all microcomputer owners who can form a group of ten or more. These presently include Apple II/lookalikes, Macintosh and IBM PC/lookalikes.

NICS will provide assistance to anyone wishing to start other groups either around a specific computer or computer related interest group.

SATELLITE GROUPS

Existing computer groups are encouraged to affiliate with NICS as Satellite group. Satellite groups are completely autonomous but will have all the services of NICS including monthly copies of the Harvest Journal and access to the software library. This affiliation relieves groups of the problems of: producing a monthly newlsletter, maintaining a software library and pubicizing the group. Now the benefits of belonging to a large group are available to all groups for a nominal fee.

MEMBERSHIP

Membership is open to all. US dues are $24.00/year with a $6.00, one-time fee, at time of admission. Membership applications are available at all Users Group meetings or by mail.

HARVEST JOURNAL

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SUBMITTING ARTICLES

The Harvest is for the members of NICS. Priority is given to members' articles but articles are welcome from all. We solicit product reviews, comments, ideas, suggestions, complaints, tutorials, notices, ads, etc. Submit your information in the form of ASCII text files, on disk, either for the Apple II, IBM PC or Macintosh word processor files. We also need hard copy for editing and checking. We will do minor editing and corrections where necessary to make you look good in print.

General Information

Person to Person

by Wes Kiel

We would like to welcome twenty new members that have joined NICS in January and February.

Apple II Group

Our welcome is extended to Jack Hilgenberg of Bloomingdale and James Stanley of Glen Ellyn. Please join us at our meetings to get acquainted with fellow members and share computer experiences and information with the group.

Apple II GS Group

We extend our welcome to Craig Ames of Arlington Heights, Leonard Gordon of Skokie, Alvin Gottlieb of Elmhurst, Bill Pervisky of Park Ridge and L. Swanson of Des Plaines. If you join the newest group of NICS at our regular meetings we extend you the opportunity to share computing experiences with this fast growing group.

Macintosh Group

Welcome to the Macintosh Group, Peter Bayne of Milvaukee, Wisconsin. We hope that you can join us at some of our meetings. The Harvest will be helpful and interesting to you.

IBM Group

The largest group of new members this month are welcomed to the IBM Group. Greetings to Herm Bingham of River Grove, Conrado DeAlmeida of Mt. Prospect, Peter Loughlin of Buffalo Grove, Tsunehide Maruhashi of Arlington Heights, Bill Newman of Park Ridge, Alan Oliver of Beachwood, Ohio, Harvey Spector of Evanston, and Elaine Timm of Schaumburg.

Three new members have joined the club but have not committed to any specific computer system. Welcome to Roger Tweed, the group at the Schaumburg Township Library and Nubangizi Vincent of Kabali, Uganda.

NICS LENDING LIBRARY

Carol Stein

Thanks to all of you who donated or loaned books and magazines to our rapidly growing hardcopy library. We now have the following new books (in addition to the ones listed in previous Harvests) available in the back storage room:

BOOKS

(donated by Suzanne Hynek)

How to Run Side Kick Plus, by Charles Keefe Ackerman. Scott, Foresman. 1989.

Advanced Turbo C, by Ken Knecht. Scott, Foresman. 1989.

Complete Turbo Pascal, by Jeff Duntemann. Scott, Foresman. 1986, 1987, 1989.

MAGAZINES

We have a growing number of magazines on all sorts of topics. Be sure to check the library for new additions. Even if a magazine is several years old, you may find information in it which you can use today. We have decided not to acknowledge magazine contributions unless you leave your name when you contribute them.

Books and magazines may be checked out for one month — just sign the sheet on the clipboard. If you miss next meeting, call me — Carol Stein at (312) 255-3735 — to renew for one month. Honor system, no fines.

All printed materials welcomed either on "permanent" loan (just write "Return to _____" with your name and address) or as outright gifts.

Modem Linkup Permits Home Library Browsing

An Article by Jean Murphy
Reprinted from the Daily Herald

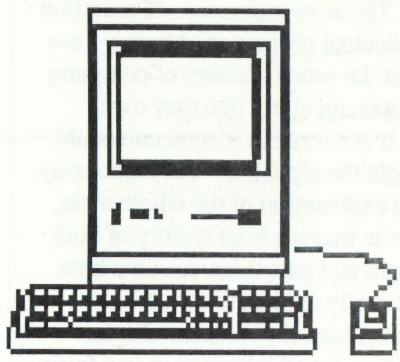
Mount Prospect residents with computers now have the luxury of staying at home on these bitterly cold days and browsing through the contents of the Mount Prospect Public Library.

By using a telephone modem connection, you can search for a book or almost any other library item without ever leaving your office or home.

The connection with the library's database is made by dialing a special number. Once connected, your computer will act just like one of the public access terminals at the library. You can search for an item by author, title subject or author and title combined. General library information and event dates are also available.

If you want to reserve a book or any other item, you simply phone the library at 253-5675. You must have a Mount Prospect library card to pace a reserve.

Information about the computer and modem setup, as well as the special phone number, is available in the flier bins at the library.



General Information

Magazine Notes

by Ann Baldridge

Some articles in a couple of recent magazines might be of interest to many of you.

The first comes from an exceptionally well-written, fairly new publication called PC/Computing, a monthly from the publishers of PC magazine. The articles will help users of all computers, not just IBM PCs and their clones. Last month's February issue, for example, had some proven, step-by-step tips on building a usable data base. This month's leads with a piece titled "Whatever Happened to Artificial Intelligence?" and includes helpful hints on "Desktop Publishing Dos and Don'ts" as well as "Ten Most Overhyped Products."

The best article, though, is Paul Somerson's column about a certain computer company's approach to operating systems. Somerson uses the line "...nearly a decade ago, we made a conscious decision to develop a PC interface that would try the patience of a Zen monk." And "The hard-boiled operating system separated the men from the boys. They became true 640K RAMbos."

The second comes from the March 6, 1989 issue of Forbes magazine. The cover story is "Who Owns An Idea? The Great Software Debate." Inside, the title is "Can Las Vegas Sue Atlantic City." The story summary: "Protection of intellectual property rights may have gone too far when creators of computer languages can claim that they own them. It is almost as if someone could copyright the alphabet." An objectively written explanation of the whole mess, the article traces a brief history of both copyright and patent law to show how neither really applies to the current software situation. As usual, Forbes gives you a lot of information in a fairly brief space.

This issue also contains a page-long piece about Egghead Discount Software's rapid expansion plan and the resulting profit problems.

If you find articles of interest, especially in magazines not normally associated with the computer industry, please write brief summaries for us to include from time to time.

PROGRAMMING WITH TURBO C

by
S. Scott Zimmerman and
Beverly B. Zimmerman
published in 1989 by
Scott, Foresman and Company

a pre-review — part 2
by Ann Baldridge NICS

In November, I spotted this book while browsing in the NICS library. When I finally found time to read it on my holiday break, I found my version of Turbo C was the "wrong" one. Version 2.0 is on order but hasn't arrived yet. I'll finish the review when it comes in.

(For those of you who are newcomers, I am repeating a small portion of last issue's article.)

This is NOT a review of Turbo C, the software. I will begin by giving you a brief overview of the C language. I will not compare it to Pascal, as most people do, since I don't know Pascal — nor to the more recently developed compiled BASICs, such as Turbo BASIC and Quick BASIC — since I haven't had time to work with them yet. So, I will compare it — but not in depth — to plain old GWBASIC (or BASICA, which is similar).

A BRIEF OVERVIEW OF THE C LANGUAGE

The C programming language was invented in the early seventies at Bell Labs by a team headed by Dennis M. Ritchie. It's called C because (according to some sources) it was their third attempt which was successful. First, A, then B, finally C. (Glad it wasn't their seventeenth try.) The C language is programmed in — C. It's first application was for systems using Unix — which is also programmed in C. In fact, the book that defined the language and for quite a few years was the only one around was written by Mr. Ritchie and Brian W. Kernighan. Called The C Programming Language, it's become such a standard that even today you will see references to K&R versions of C. The second edition is available at some bookstores.

C is a terse language with twenty-eight Keywords, nine terms for Data Types, eight for the Compiler Control

Lines (a.k.a., Preprocessor Directives), and thirteen Statements for a total of fifty-eight Reserved Words. Contrast this with BASIC's more than 150 (such as PRINT, INPUT, GET, and so on and so forth). Reserved Words are the built-in functions which come with the language, so to speak. With C, you get very few. You must write each function yourself or import them from the library provided with your compiler.

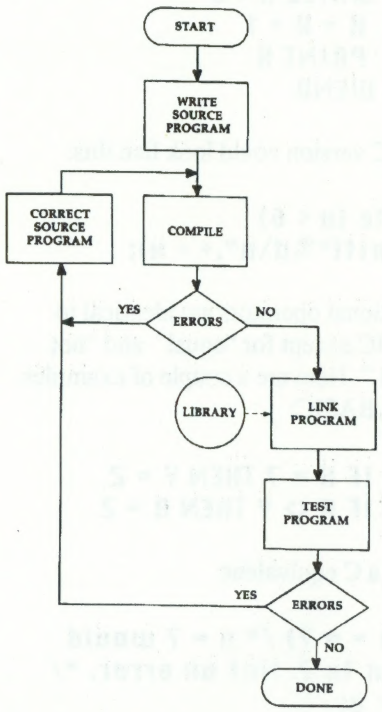
(Note: There are tons of these functions available. Each compiler tries to outdo the others with those the publisher feels you will want. And just visit any bookstore. You can buy, for example, a 400-to-500 page book of functions just for Turbo C. Whether you can use any of them or not is up to you. And the magazines are full of offers of disks of functions, too. In fact, many computer club public domain libraries either have or can get them.)

Unlike BASIC, C does not provide any way of getting information from the keyboard or the screen or outputting it to the screen or disk or printer. Therefore, most, if not all, compilers come with some now-fairly-standard functions to handle the I/O — Input and Output. That's why the first line you usually find in a C program is #include <stdio.h>. It's not an abbreviation for studio but stands for standard input/output. Many of the terms in these function libraries originated with the Ritchie team and have become so common they're included in all C compilers and almost have the status of Reserved Words — e.g., printf and scanf.

C is a "compiled language." You write the source program in C and tell the compiler to look for errors in it. When you have none, you are ready to LINK — call other existing programs you need to complete the one you're working on. These may be either those you previously compiled or some from the standard library. The Linker calls those object programs and combines them with your program to create the new object program — which executes with all the little ones and zeroes the machine uses.

Now you aren't home free yet. The compiler doesn't know what you have in mind for your program to do. So you look for what are called "run-time" errors. If you find any, you re-do your source program code, re-link, and try again. This sounds like a lot of work,

Figure 1-1. Developing a C Language Program



but the resulting program is fast. Unlike BASIC, in which each line must be interpreted before being executed, C object programs are talking the language the computer understands best.

Here's a Flow Chart to show what I've been talking about. (Please note the new compiled BASICS work similarly to C in this regard.) The chart comes from an interesting book: From BASIC to C, by Harley M. Templeton. It was published in 1986 by Compute! Publications, Inc. Largely based on the K&R version of C, it is a good introduction. Many of the examples I'll use are from this book.

Keep in mind that each of the programs and library files called by the Linker are (or should be) fully debugged. In fact, a properly written C source program should largely call routines and functions which you or someone else has used successfully in the past. If you must write new ones for the particular application you're creating, then debug and compile each as you work.

"A C program is itself a function. It includes calls to other functions of the program. Every executable statement in the program is either part of of the main() function (the program) or a part of a function called (directly or indirectly) by the main() function. To put it another way, each of the functions that make up the program is called by a statement in the main() function or in another function of the program." (page 17, From Basic to C)

SOME FUNDAMENTAL C ROUTINES & FUNCTIONS

(Note: None of the examples in this section will compile without a lot more code being added. They are here to show you some of the differences between BASIC and C.)

Here's a typical C function which will print a character. You'd have to #include <stdio.h> to use the "printf" and "chwr()".

```
chwr(c) /* Write character */
char c;
{
int c;
if ((ch = putc(c,fpo)) == EOF)
  { /* Some would put this
    on the line before */
```

```
    printf("Write error writing
    character %c. \n",c);
    exit();
    }
}
```

The slash-asterisk combinations act as REMs for documenting your program. The double equals mean "is equal to." "Not equal to" is "!=". Not only do you count to be sure your parentheses come out equal in C, but also the curly brackets. Woe betide the program without enough of them. And forgetting just one of the semi-colons can cause the compiler to get lost. Not only will it not compile your code, but under the right circumstances can and will generate a page or two of error and/or (if you're lucky) warning messages. Insert the semi-colon and all's well as if by magic.

Here's a function with a compound statement or block. First the BASIC line:

```
100 IF A < C THEN A = C: B = C
ELSE A = 5: B = 5
```

The C equivalent uses two blocks, which could be:

```
if (a < c) {
  a = c;
  b = c;
  }
else {
  a = 5;
  b = 5;
  }
```

Most compilers make it easy to line everything up like this since reading C code is tricky enough as it is. Not exactly "user-friendly."

Here's a BASIC loop with the FOR - NEXT - STEP all specified:

```
100 FOR I = 1 TO 10 STEP 2
110 A = I * A : REM Multiply A
    times I
120 PRINT A
130 NEXT I
```

Here's a C loop which performs exactly the same function:

```
for (i = 1;i <= 10; i = i + 2) {
 a = i * a;
 printf ("%d\n",a);
 }
```

And BASIC's WHILE - WEND:

```
100 WHILE X < 6
110  X = X + 1
120  PRINT X
130 WEND
```

The C version could look like this:

```
while (x < 6)
 printf("%d\n",+ + x);
```

Relational operators are identical to BASIC except for "equal" and "not equal." Here are a couple of examples. First, BASIC:

```
200 IF X = 7 THEN Y = Z
210 IF A <> Y THEN A = Z
```

Now a C equivalent:

```
if (x = = 7) /* x = 7 would
set x to 7. Not an error. */
 y = z;
if (a != y)
 a = z;
```

There is even a GOTO statement. In C, you must "goto label" and be sure to have that "label" in your program. As in BASIC, a programmer only uses it when in direst straits. (My instructor at College of DuPage forbid us to use it unless we wouldn't get an assignment in on time. Of course, we got a lower grade on the program.)

Well, you get the idea. If you would like more information about C, you may want to get From BASIC to C or any other one from your local library. If you know of other C programming courses — such as the ones I mentioned at COD — please let me know. I will be happy to publicize them in upcoming Harvests.

C is one of the hottest languages around and will remain so. Because the next logical step are the Object Oriented Programming (OOPS) extensions to C which are just coming onto the market. We had a presentation of one — Actor — at an IBM meeting last year.

I hope to finish my review of this book as soon as possible. I probably won't return the book 'til then.

Apple //

David Numberman's 'Not-So-Stupid' Spreadsheet Tricks

by Dave Carter, NICS Member

One of the more arcane AppleWorks functions is the financial function, Net Present Value (@NPV). If one dealt with the time-value of money on a regular basis, he would probably choose one of the more specialized spreadsheets which have several specific financial functions; however, for the occasional user, the @NPV function in AppleWorks can perform many of the same tasks.

The basic idea of the @NPV function is this: "What is it worth RIGHT NOW to know I will receive a certain series of monetary payments in the future?" Alternatively, "How much do I have to receive over the coming months (years) to make up for giving up a certain amount now?"

Consider the following problem: You are lending a friend $1000, which he promises to pay back in six annual payments of $200, and you want to know if this is a fair (good) deal for you. You currently have the money sitting in an account at Joe's Bank & Grill, earning 5% compounded annually.

First, boot AppleWorks and create a new spreadsheet file [Add files, Spreadsheet, From scratch, NPV].

Enter 200 in each of cells A1 through A6; enter the formula @NPV(.05,A1..A6) in cell A8. You will see a value of 1015.138 in Cell A8, which means the 6 payments of $200 are the equivalent of having $1015, right now, in the bank.

What this means is that you actually earned more than 5%; if you had charged your friend exactly 5%, the net present value of his payments would have been worth $1000. There are two ways to go from here: lower the payment and tell your friend, or calculate the true interest rate and gloat over your business acumen. We will take each in turn.

Suppose you charge $10 less per year. Change cells A1 through A6 to 190. A8 now has a value of 964.3814. Now you are losing money (or your friendship is worth $35.62, take your pick).

> **APPLEWORKS TIP**: To avoid having to wait for recalculation to occur after each number is entered, turn off automatic recalculation [Open-Apple-V, Recalculate, Frequency, Manual]. Enter all the data, then press Open-Apple-K to recalculate.

Go back and make the payments 196, then recalculate. Cell A8 now gives a NPV of 994.8356, better but still not 1000. You may also have noticed that typing in payment changes gets boring real quick; let's do something about that right now.

In cell A2, enter the pointer +A1. (A pointer is a reference to another cell; we want the value in A2 to be the same as A1.) Now copy this pointer into cells A3 through A6 [with your cursor still in A2, press OA-C, W, Return, Down Arrow, . (period), Down, Down, Down, Return, R.] This tells each of the payment cells to use the previous payment value; when we enter new payments in A1, the other 5 payments will be adjusted automatically before calculating the NPV.

Now go back to cell A1 and enter 197 (we need to charge more than 196). This gives a NPV of 999.9113. Try 197.10; now the NPV is 1000.418—too much. A payment of 197.02 gives a NPV of 1000.012, while a payment of 197.01 gives a NPV of 999.962. So the payment that gives a true 5% return on your money is $197.02, which is what you charge your friend.

Now let's go back to the other choice, calculating our true rate of return and considering becoming a loan shark. Put 200 in A1 again, and change the interest rate in A8 to 5.5% [Move to A8, then Open-Apple-U, use the right arrow to position the cursor and change .05 to .055, Return] Recalculate — Cell A8 now shows 999.106. In other words, the six $200 payments are worth $999.11 in a 5.5% savings account. That was pretty close for a first guess; we could let it go at that, but let's fine-tune the interest rate just to see the process work.

Change the interest rate to .0545. Now A8 [upon recalculation] gives 1000.691. (I'm going to assume you remember to recalculate each time, OK? You could also use Open-Apple-V and change back to automatic recalculation for now.) Notice that raising the interest rate lowers the Net Present Value, and vice versa (the higher the interest, the less money we need to produce a specific amount).

Split the difference: change the interest rate in A8 to .05475. Now A8 becomes 999.8982. Try .0547: A8 becomes 1000.056. Try .05472: 999.9934 — close enough for me. So the six $200 payments are worth the same to you as Joe's Bank & Grill upping its interest rate to 5.472% compounded annually.

So then, the basic process of using the @NPV function is trial and error, varying either the interest rate or the payment, until the desired Net Present Value is achieved.

Now let's apply this to a more realistic problem. Let's say you are looking for a new car, and would like to pay no more than $200 per month. You can get a 12% per year loan for 24, 36, or 42 months. You would like to know how much money you can borrow under these conditions.

We'll put these calculations in Columns C through H of the NPV

spreadsheet. Enter 200 in C1, E1, and G1. Enter +C1,+E1, and +G1 in C2, E2, and G2 respectively. Now copy the pointer +C1 (make it relative to the new cells) into C3 through C24. Likewise, copy +E1 into E3 through E36 and +G1 into G3 through G42. This gives us the correct number of monthly payments for the three cases under consideration.

To make it possible to experiment with the interest rate later if we so choose, enter the interest rate, expressed as a decimal (.12), in Cell B1. Then in Cell D1 put the formula @NPV(B1/12,C1..C24). Note that 12% is the annual rate, and we are making monthly payments, so we use 1/12 of the annual rate. Cell F1 gets the formula @NPV(B1,E1..E36) and H1 gets the formula @NPV(G1..G42).

Upon recalculation, we find that the 24 month loan will allow us to borrow $4,248.677, while the 36 month loan yields $6,021.501 and the 42 month loan produces $6,831.621. These figures can now be manipulated by changing the monthly payments (remember, you only have to change the values in Row 1) or the interest rate (change the value in B1).

It really is no more difficult to calculate a 30 year mortgage (just put the payment in rows 1 through 360). Also, if payments will not be made every month, or an investment under consideration will not pay you every month, that can be allowed for rather easily as well. Just put 0 in the months when no payment is received.

At this point, I leave you to experiment on your own. Good luck!

Better Late Than Never: A Report From a Satisfied Zip Chip Customer

by Dave Carter

In November, 1987, I ordered a Zip Chip accelerator chip for my Apple //e. Little did I realize it would take 11 months for it to arrive. Nevertheless, in October, 1988, I finally received this long-awaited product. What follows are the results of a few speed comparisons performed at the November, 1988, AppleWorks SIG meeting. (Yes, I know it's now March, 1989 — but then, I've heard that imitation is the sincerest form of flattery.)

Seriously, while it's easy to make jokes at someone else's expense, I do want to point out that I received at least four letters keeping me up to date on the "progress" of my order, and my credit card was not billed until AFTER I had received my Zip Chip. While the folks at Zip Technologies may be guilty of ignorance of the squaring factor in Murphy's Law when it is applied to new computer products, their business ethics were above reproach.

CAVEATS

For those who haven't investigated accelerator products (either chips or cards), please note that only processing, not disk access, is speeded up. This means that only certain types of operations, such as calculations, sorts, and screen re-draws, are affected. So if you find yourself waiting for your disk drive a lot, don't look here for a solution.

Since a normal Apple //e runs at a clock speed of 1 megahertz and the Zip Chip runs at a speed of 4 megahertz, the best improvement that can be expected is that an operation happens four times as fast. Various factors make this the ideal, and not always achieved in reality.

INSTALLATION

I had no difficulty with this, although I was somewhat apprehensive. I have replaced numerous chips in my //e (I did my own enhancement upgrade, I installed a No-Slot Clock, and added memory chips after I purchased my memory card) but the Zip Chip is probably 50-75% wider than the 65C02 chip it replaces. Since the pins still have to be the same distance apart, this means the Zip Chip has a considerable overhang, making it difficult to see, even with the aid of a flashlight, that all the pins are properly aligned. Add to this the relative fragility of the Zip Chip's pins (they are noticeably thinner than most I have encountered) and I considered myself lucky as well as dextrous when I achieved a perfect installation on the first try. After running the diagnostic disk (included with the chip) to make sure everything was functioning properly, installation was complete.

RESULTS

Word Processing:

Since word processing is generally data entry-intensive, the fewest benefits are to be expected here. But if you work with large files you may see noticeable improvements. For example, in a 19K AppleWorks file (6 pages of text) a normal //e took 41.79 seconds to replace all the word "the" with "zzz", while the Zip //e took only 12.78

seconds. In the same file, moving a sentence from the beginning of the file to the end took 3.24 seconds on the normal //e, but only 1.34 seconds on the Zip //e.

Spreadsheets:

Here the potential is greater for noticeable change. The first spreadsheet used contained twelve sums of 380 items, 760 2-number products, 380 2-number products followed by an addition, and twelve item counts (380 items each). The normal //e took 34.92 seconds, compared to Zip's mere 11.72 seconds.

In the second spreadsheet the Net Present Value function, which results in a lot of number-crunching, was used. Seven sets of 360 payments and six sets of 180 payments took 32.57 seconds for the Zip //e. The normal //e took a flat 2 minutes. This was the closest to the theoretical "4 times as fast" we were able to find in our tests.

Databases:

The problem we had with database speed checks was that while my computer had extra memory and could handle a large database, the lab computers (the AppleWorks SIG meets in a school computer lab with 29 //e's) didn't. So most of our testing here was done on a 959-record database, with no comparison times. We did re-boot my computer with the Zip Chip deactivated (a MUST for playing some games, I might add), but by then the custodian was throwing us out of the building, and we didn't duplicate all tests.

In a file arranged by date chronologically, arranging in reverse chronological order took only 3.68 seconds, versus 5.92 seconds on the normal //e. In the same file, finding a street name that appeared in 490 out of 959 records happened "in the blink of an eye," (I couldn't react fast enough) with the Zip Chip.

In a test performed on a 189K database (1051 records) "even as I write this", arranging a category alphabetically (it was random) took 8.47 seconds, although AppleWorks' "estimated time" was 12 seconds.

The remaining tests were only performed on the 959 record database mentioned above; this file had 24 categories of information (names, addresses, dates, and text). Finding "Carter," which appeared in only 2 records, and in the 13th category, took 14.79 seconds with the Zip Chip. Finding a date that was in the 24th category took 14.29 seconds.

Using Record Selection rather than Find (Appleworks 2.0 optimizes the former), I deviously searched for non-existent entries. "No Records Matched the Selection" in 2.24 seconds.

In conclusion, the Zip Chip works as advertised. However, you will appreciate it only if you use large files or otherwise notice that you frequently wait for your computer to finish its work.

[The Zip Chip is available from Zip Technology, 11340 West Olympic Blvd., Suite 350, Los Angeles, CA 90064; 1-800-628-3278. List price is $183 including shipping.]

Speed Comparisons

Operation	Regular //e	ZipChip //e	"Times Faster"
	(all times in seconds)		
Word processing			
Replace "the" with "zzz"	41.79	12.78	3.27
Move sentence in 19K file	3.24	1.34	2.42
Spreadsheet			
Sums & products	34.92	11.72	2.98
Net Present Value	120.00	32.57	3.68
Data Base			
Arrange: Chrono. to Reverse	5.92	3.68	1.61
Arrange: Random to Alpha	12.00	8.47	1.42

Apple // GS

Good Stuff

Edward Floden

This month: an explanation of ProDOS pathnames; new products for the IIgs; and an editorial on the future of the Apple II.

A Place For Your Stuff

A storage device can be any of several types: it can be a 5.25-inch floppy disk, or a 3.5-inch disk, or a multi-megabyte hard disk drive, or even a RAM disk. On the IIgs, 3.5-inch disks are normal, and as you accumulate more software (especially productivity software such as word processors, databases and spreadsheets) you might want to use a hard disk drive, which has a storage capacity many times that of a single 3.5-inch disk. A 20 megabyte drive, for example, can hold the equivalent of about 25 3.5-inch disks. RAM disks can also be used for temporary storage; the built-in RAM disk of the IIgs can have as much as 8 megabytes of memory, or as little as zero. But no matter what the actual storage device is, each one is capable of being used to store ProDOS program and data files. (From this point on, I'll refer to storage devices using the general name of "disk".)

Name That File

When you save a file to a disk, you must give that file a name. That name, according the rules of ProDOS, must begin with an alphabetic character (a letter from A through Z), must be fifteen characters or less in length, and cannot contain any characters other than letters of the alphabet, numbers, or periods. Spaces, punctuation marks, and control characters are not permitted. For example, the file name "A2RT.890217" is allowable, but "2RT.890217?" is not (the name cannot begin with a number, or contain punctuation marks), nor is "NEWS.REPORTS.FEBRUARY.10" (contains twenty-four characters; the maximum allowed is fifteen) or "BOOK NOTES" (contains a space). If the name that you want to use contains any illegal characters, you must replace those characters: substituting a period (".") for a space is common practice. If the name is too long, truncate it; while longer file names may be more descriptive, and may help you to identify the file, ProDOS will not accept more than fifteen characters in the name.

Spaces, punctuation marks, and control characters are not permitted in ProDOS file names.

Under ProDOS (and GS/OS, too), the disk upon which you save your files must also have a name: this is the "volume name", and it follows the same rules for file names in ProDOS. However, to distinguish the name of a disk volume from the name of a file, the volume name is prefixed with a slash ("/", also known as a virgule). "/APPLEWORKS" is an example of a volume name; "APLWORKS.SYSTEM" would be a file name only. Volume names, like file names, do not need to be lengthy: "/C" and "/D" are perfectly acceptable volumes names (in fact, those are the names of the volumes on my own hard disk drive).

On The Right Path

A volume can contain up to 32 megabytes of information, depending on the size of the disk. The number of files on the volume is limited only by the maximum capacity of the disk: you can have one 32-megabyte file, or you can have 32,000 1-kilobyte files. However, storing 32,000 files on a single disk can be a problem: when you catalog that device, you will be listing every one of those files on the screen, or maybe sending the list to your printer. In either case, to find a particular file, you will need to read the names of a lot of files which are unrelated to the file that you want. If the file for which you are looking is an AppleWorks database file, you might be able to find it more quickly if it was grouped together with all of your other AppleWorks database files. Under ProDOS, you can group together similar files, placing them into a separate division of the disk called a subdirectory.

Every volume has a "root" directory, which you can see by cataloging the volume itself. In the root (or volume) directory of the GS/OS System disk, you will find the following files:

Volume: /SYSTEM

File name	Type
PRODOS	Sys
SYSTEM	Dir
ICONS	Dir
FINDER.DEF	$C9
FINDER.DATA	$C9

To refer to the files on the volume /SYSTEM, you would use the "pathname" of the file. A pathname consists of the full name of a file, including all of the directories under which it is found. For example, the pathname of the file SYSTEM is "/SYSTEM/SYSTEM". Notice the "/" between the name of the volume and

the name of the file — this serves to separate the component names of a complete pathname. And, although the file name of "SYSTEM" is the same name as the volume "SYSTEM", there is no conflict between the two names: the SYSTEM subdirectory exists on the SYSTEM volume, and the names are not on the same directory level. If you attempted to add another file named "SYSTEM" to the root directory, then you would have a conflict: your "SYSTEM" file, even it it was not a subdirectory, would be on the same level as the existing SYSTEM file, and ProDOS would not allow you to create the new file.

"SYSTEM" and "ICONS" are subdirectories, with a file type of "Dir". These two files are not actual programs, but they contain within them the information for locating many other files on the disk volume /SYSTEM.

Going Down

In the SYSTEM subdirectory, you will find the files

DESK.ACCS	Dir
DRIVERS	Dir
ERROR.MSG	Exe
FINDER.DATA	Bin
FONTS	Dir
FSTS	Dir
GS.OS	$F9
P8	Sys
START	S16
START.GS.OS	$F9
SYSTEM.SETUP	Dir
TOOLS	Dir

DESK.ACCS, FONTS, TOOLS, DRIVERS and SYSTEM.SETUP are subdirectories: within these directories lie more files. The pathname to the DESK.ACCS subdirectory is "/SYSTEM/SYSTEM/DESK.ACCS"; the pathname to the START.GS.OS program is "/SYSTEM/SYSTEM/START". Within the DESK.ACCS subdirectory are the files CACHE.NDA and CLOCK. The complete pathnames to these files would be /SYSTEM/SYSTEM/DESK.ACCS/CACHE.NDA and /SYSTEM/SYSTEM/DESK.ACCS/CLOCK.

Because the various files on the /SYSTEM volume are grouped this way, in different subdirectories, you can find a particular file more easily by looking in the subdirectory that contains files of a similar purpose, such as desk accessories which would be found in the subdirectory named "DESK.ACCS".

Full pathnames are not always necessary to identify a file, or to instruct ProDOS to run a program. If you wanted to run the program P8, in the SYSTEM subdirectory of the volume /SYSTEM, you could type (at the Applesoft BASIC prompt) "-/SYSTEM/SYSTEM/P8", with "-" being the "smart" run command. This command would cause the operating system, either ProDOS or GS/OS, to locate the specified file and execute its instructions.

Keep your directory names short; if you must type in the complete pathname of a file often, you will appreciate short names.

You could execute the P8 file by typing only "-P8", but there is one problem: ProDOS wouldn't know where to find the file. "P8" may identify the file, but it does not identify the actual location of the file. So before you type "-P8", you must tell ProDOS where to find the file, and you do this by entering the name of the current "prefix".

The prefix is that part of a pathname which points to a particular directory. "/SYSTEM/SYSTEM" is an example of a prefix; when ProDOS is told that this is the prefix, then typing "-P8" will run the program, as ProDOS will append (add) that file name to the current prefix. You may have typed "-P8", but ProDOS will actually look for a file called "/SYSTEM/SYSTEM/P8". "P8", without its prefix, is known as a "partial pathname"; that is, it is a pathname that does not completely identify the location of a file.

If you are currently in Basic.System (the Applesoft interface to ProDOS), you can set the prefix with the command "PREFIX", followed by the partial pathname. "PREFIX /SYSTEM" will set the prefix to the volume /SYSTEM; "PREFIX /SYSTEM/SYSTEM/DESK.ACCS" will set the prefix to the DESK.ACCS subdirectory.

Paper Chase

Desktop programs, such as the IIgs Finder, use the subdirectory concept in a slightly different way. In these programs, directories are not called by that name, but are instead referred to as "folders". The analogy used is that of "file folders", each of which contains other folders, and inside these folders are programs, data files, or other subdirectories. The icons used on the desktop reflect this nomenclature: directories are represented by "folder" icons, while data files for applications are shown as "pages" inside a folder.

There are a few more limitations on files and pathnames: (1) a pathname, or a partial pathname, cannot exceed 64 characters in length; each slash counts as one character. Keep your directory names short; if you must type in the complete pathname of a file often, you will appreciate short names. On the /C volume of my hard drive, I have subdirectories named COM, AW, AWGS, and UT, among others. These names can be typed much more quickly than can the words COMMUNICATIONS, APPLEWORKS, APPLEWORKS.GS, and UTILITIES.

(2) The root directory cannot contain more than 51 files. If you attempt to add a fifty-second file, you will get an error message. With this many files in the root directory, you should be using more subdirectories to store the files; the only files which should be in the root directory are those files that will not run from a subdirectory. (3) AppleWorks version 2.1 cannot read more than the first 130 (or so) files in a subdirectory. Refer to item 2, above. You should keep the number of files in an individual directory to a reasonable number — I have found fifty to be a comfortable limit. More files than that, and you waste time looking at file names that you don't really need to see. Create subdirectories for related files.

For a more information on ProDOS itself, read the Apple IIgs ProDOS 16 Reference Manual, published by Addison-Wesley, and the ProDOS 8 Reference Manual by the same publisher. A GS/OS Reference manual is currently in beta draft form, and available from APDA (the Apple Programmers and Developers Association). The finished version of the GS/OS Reference is due later this year.

Real Soon Now

By the time you read this item Applied Engineering's **TransWarp GS** will be shipping. A+ Magazine is scheduled to have a full review of the finished product in the April issue. I have one on order, but I don't expect to see it until April at the earliest; AE says that the first run is already spoken for. However, unlike AE's memory expansion cards, the TransWarp GS will have only a one year warranty, and not five; AE says that this is due to the new technology used in the manufacturing of the TransWarp GS.

HyperStudio, from Roger Wagner Publishing, is still waiting on FCC certification for the digitizing hardware, but may be shipping in early March. Neil Shapiro, Chief Sysop of the MAUG(tm) Forums on CompuServe, has offered to give Roger a support section on the APPHYPER Forum, if he wants it. APPHYPER is dedicated to hypertext applications in general, although most of the message traffic (and the software libraries) contain information and programs for the HyperCard application for the Macintosh.

Claris Corporation is working on an update to **AppleWorks GS,** which was scheduled to be sent to all registered owners at the end of March. If you have not yet sent in your registration, you won't be getting the update!

Glen Bredon, the author of ProSel, has released a new version of ProSel for the IIgs only. **ProSel-16** is a sixteen-bit version of the utilities package: the Cat.Doctor (now called ProSel Utilities), File.Finder, and Information Desk programs have been rewritten for 16-bit operation. The ProSel Utilities now contains Volume Copy, Compare Files and Compare Disks options, as well as a File Dump (to screen or to printer). The upgrade price is $20 for current registered owners of ProSel, or $60 if purchased new. If you received ProSel through the Sider bundling, the cost is $50. (Glen E. Bredon, 521 State Rd., Princeton, NJ 08540)

Once again, rumors of the impending demise of the Apple II line are making the rounds.

Fun Stuff

New games for the GS:

Dungeon Master, from FTL Games / Software Heaven, Inc. (P.O. Box 112489, San Diego, CA 92111); a graphic adventure. The usual action: find the objects which you need to complete the adventure, join a band of comrades, get killed by ravenous beasts. Requires 1 MB RAM; copy protected, must be booted from master disk.

Impossible Mission II, from Epyx (600 Galveston Drive, Redwood City, CA 94063; 415.366.0606. Elvin is back, and he still wants to rule the world. Your mission: infiltrate his stronghold, evade his robot guards and security cameras, and stop him! You race against the clock in an effort to stop Elvin before it's too late for the world. Requires 512K; joystick useful, but not required; copy protected, but can be launched from the Finder; compatible with GS/OS.

Araknoid, from Taito (11715 North Creek Parkway South, Suite 110, Bothell, WA 98011; 604.984.3040. A "Breakout"-like arcade game, originally released for the Amiga. Requires 512K; stereo sound; uses mouse for movement; copy protected (key disk); GS/OS compatible; can be launched from Finder.

War In Middle Earth, from Melbourne House (711 W. 17th St., Unit G9, Costa Mesa, CA 92627; 714.631.1001). A graphic adventure, based on the Lord of the Rings books by J.R.R. Tolkien. Requires 768K; not copy protected; can be launched from the Finder; GS/OS compatible.

Rumors

Sears, Roebuck will be approved by Apple as an authorized seller of the Apple II line...A new piece of hardware for the IIgs will be introduced at the Boston AppleFest; probably not the IIgs Plus (sorry), but possibly an upgrade for the video...

II Good II Die

Once again, rumors of the impending demise of the Apple II line are

making the rounds, fueled by the observation that Apple Computer hasn't released an upgrade for the IIgs, and this model is over two years old. Meanwhile, three new Macintoshes have debuted.

The Apple II is not dying. Since the introduction of the IIgs, there has been one upgrade to the video graphics controller (to correct a bug), a ROM upgrade (with another expected this summer), and the final release of a purely 16-bit operating system, GS/OS. Maybe these items do not seem to be very exciting, but their existence proves that Apple has not abandoned the II. GS/OS, for example, has been in development for several years. If Apple had plans to drop the II, then they would have had no reason to release GS/OS; better to let the line die than to spend more money on its support. And the IIc+, although panned by some computer magazines as being "a step backwards", is a herald to the coming of the much-rumored IIgs Plus; why improve your bottom-of-the-line model, giving it a speed advantage over your top-of-the-line machine?

Applied Engineering is also betting on the continued existence of the Apple IIgs. The TransWarp GS will be shipping at about the time that you read this (early March); for the millions of current IIgs owners, this card will raise the system speed of the IIgs above that of the IIc+, or a IIe or IIc with a Rocketchip, Zip Chip, or TransWarp installed.

Third-party companies do not support dead computers, if they can't make money from them. If the II were truly obsolete, then many users would start looking for a better machine, something which was closer to the "state of the art". Third-parties won't produce new products, if they feel that their potential clients would rather buy a new computer than consider upgrading their current system with add-in cards and new peripherals.

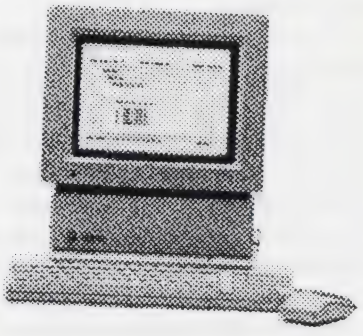
But I'm not saying that the Apple II, as we now know it, will exist indefinitely (although, that is a nice thought). The IIgs, to be an "Apple II", was given the capability to run most of the software that was already written for the previous II models (][+, //e, //c). The next generation of the IIgs may not have that capability, at least not built-in. Many II owners have complained that the IIgs doesn't have the graphics resolution of the Amiga, or the speed of a TransWarp-equipped IIe. These improvements are coming; but the cost of maintaining compatibility with older, pre-IIgs programs may be too high, and we'll see a IIgs that can run only programs written for the IIgs. Perhaps an add-on emulation card will be produced, for those users who still want to run older programs, and can't afford to buy a IIe on which to run them.

The Apple II has often been called the Volkswagen of computers.

If you're waiting for a low-end Macintosh, something that will run both IIgs and Macintosh software, then you're in for a long wait. John Sculley has stated that there will be no low-end Mac for at least another year. A better possibility is the announcement of an emulation card that will allow the IIgs to run Macintosh software.

Given the installed base of Apple II computers, abandoning the II line would be a very bad move for Apple; disappointed users might consider buying someone else's machine, possibly a MS-DOS compatible unit, than purchasing a Macintosh. If that happens, Apple will lose the support of many software and hardware developers, who won't produce new products. Perhaps a new, post-II hacker user would emerge to support the officially dead machine, just like the hackers who helped push the Apple II to its original status as a machine with which you could work, and configure to your own needs, rather than accepting the "standards" set by the computer manufacturer.

A good idea may change over time, as the evolution of the Apple II will attest, but a good idea will never die. (In the Woody Allen movie, "Sleeper", Allen's character finds a dust-covered car that has been hidden inside a cave for two hundred years. He enters the vehicle, and to his amazement, the engine starts on the first try, and the car is still mechanically sound. What was the car? A Volkswagen Beetle. And the Apple II has often been called the Volkswagen of computers.)



Macintosh

File Formats??!!!!!!!!

This article courtesy Solutions International, producers of Curator ™.

Think of Macintosh Encapsulated PostScript (EPS) as a capsule, like a Contac™ pill.

Pen the capsule and out falls PostScript™ and PICT. The PICT is what you see on the screen and the PostScript goes to your LaserWriter or other PostScript printer.

Put the capsule back together, but this time replace the PICT with TIFF. Now you have IBM Encapsulated PostScript (EPSP).

Throw away the PICT or TIFF from either and you have just PostScript. The screen of our Mac is blank except for the dialog box saying "This Drawing is entirely encoded in PostScript." If you could look into that half capsule, you would see ASCII text that is understood by your LaserWriter and prints beautifully. But don't try to send it to an ImageWriter.

This time throw away the PostScript half from MacEPS capsule. You are left with a PICT or a Similar Glue™ file. They show on the screen and are object oriented. They contain QuickDraw™ as the message that foes to the printer. QuickDraw is very flexible. It can go to a PostScript printer, be interpreted into PostScript and printed. It can go to a QuickDraw laser printer and print beautifully and it can go to a dot matrix printer.

Finally, throw the "object orientedness" information from the PICT file. You now have about a quarter of the information that was in MacEPS and it is a TIFF of Paint file. The only difference between these is that the TIFF usually has lots more dots tan the Paint file. TIFF files usually come form a scanner and take a long time to draw on your screen. The TIFF or Paint file is an unsophisticated file by today's standards. It is not object oriented. The TIFF file prints fine on the ImageWriter like a Paint file but much better on the LaserWriter because the TIFF has so many dots in it that it approximates the number of dots that the LaserWriter prints.

Understanding the standard file format is in only half the battle. The standard file can be converted by programs like The Curator™ so that they can be place in almost any other program. However, they are no longer a problem. There are still may proprietary formats generated by programs that go very readily back into those programs, but nowhere else. You can do something about this problem.

While you are working in the program do SAVE, but when you are done with the drawing, chart etc. do a SAVE AS...., if possible, in one of the standard graphic formats. Remember, today they are Paint, TIFF, Glue, PICT, Mac Encapsulated Postscript, IBM Encapsulated PostScript and plain PostScript. Then your graphic will be much more readily integrated into other programs. For example, if you save from CricketDraw™ you create CKDT file. If you SAVE AS... you create a MacEPS file. If you have The Curator, you won't have problems with incompatible formats again. The Curator will convert and EPS file to a TIFF, Paint or PICT file that can go into Canvas™, FullPaint@ or a range of other programs. The Curator also comes with a reference card that show what file formats most Macintosh programs create and open. If you would like a copy of this list, just contact Solutions International and we will send you a copy.

There is one final point to add to this discussion on file formats. Spreadsheets, reports from database or accounting programs and documents from page layout programs or word processors are not graphics. Try making a fancy headline in Word™ with fonts and boldface. Copy it to the clipboard to paste into MacDraw™. You get Geneva, the default font, with no boldness. That's because Word does not create graphics. The same thing happens with a spreadsheet or a P & L from an accounting package. If You want to treat these documents as if they were a graphic and cut and paste from them, you need to "print them to disk" with SuperGlue™ and make them into multipage QuickDraw graphics.

Armed with this simple explanation, you won't have to huff and puff so much at the Big Bad File Formats and you will become the file format expert.

Editors note. Solutions International is the creator of several wonderful programs such as: SuperGlue, The Curator, SmartScrap & the Clipper and Glue. They can be reached at: Solutions International, 29 Main Street,,Montpelier, Vermont 05602. 802-229-9146.

Reality Visited

by Terry Tufts

The preceding article explains how file formats are supposed to work. A summary of how the well known applications actually work and what they work with, is printed on the next page. You can use this chart as a guide in purchasing graphical applications or to see which programs are compatible-with each other. It's a very comprehensive article. If you would like to read the complete article, obtain Mar-April '89 issues of **MacUser**.

Graphic Examples

Application	Paint & PICT bit Map	PICT object	PICT2 bit map	PICT2 object	Gray-scale TIFF	1-bit TIFF	EPSF (non-illustrator)	EPSF (Illustrator 1.1)
Canvas 2.0	displays OK scale/rotate as bit map, edits fully prints OK	displays ok edits fully prints OK	displays ok, can convert to hi/r-res b/w dithered bit map scale as object, edits fully as bit map, prints colors, hi contrast b/w, or b/w dither	displays ok, can convert to hi-res b/w dithered bit map edits fully, as object or as bit map, prints colors, b/w dither, or hi-contrast b/w	displays as hi-res bit map halftone, rotates and edits fully as bit map, prints hi-res bit map halftone	displays as hi-res dithered bit map rotates and edits fully as bit map prints hi-res dithered bit map	not supported	not supported
Digital Darkroom 1.0	Conv to gray-scale bit map, displays OK edits fully prints OK	conv to gray-scale bit map, displays OK, edits fully as bit map prints as changed	conv colors to grays, displays grays ,edits fully, prints as changed	conv to gray-scale bit map, displays grays edits fully as bit map prints as changed	displays OK edits fully prints OK	conv to gray scale, displays grays edits fully prints grays	not supported	not supported
Drawing Table 1.0	displays OK scale/rotate as object, prints OK	displays ok edits fully prints OK	conv colors to grays, displays grays, scale/rotate/sheer as object, can adjust c/b crashed driving 4693 D, prints as grays	conv colors to 8 QD colors, displays as changed edits fully, puts rects around text blocks prints as changed	not supported	not supported	displays only b/w preview scale/rotate prints b/w bit map on 4693D, on LW prints OK	displays only b/w preview scale/rotate prints b/w bit map on 4693D, on LW prints OK
FreeHand 2.0	displays OK scale/rotate/shear as object, prints OK	can Place or Open, displays OK scale/rotate, or edits fully, prints OK	conv colors to grays, displays scale/rotate/shear as object, can adjust c/b crashed driving 4693D, prints as grays	displays OK, can convert to own object smooths sharp polygons, scale/rotate/shear prints OK	displays OK scale/rotate/shear as object, can adjust c/b prints OK	displays coarsely scale/rotate/shear as object prints hi-res dithered bit map	displays b/w or color preview scale/rotate/shear prints OK	can Place or Open, displays OK. Place: rotate/scale/shear; Open:edit fully. Prints OK
Illustrator 88 1.6	displays as grayed template can auto-trace doesn't print	displays as template, can conv to own format can trace, or edit fully if converted doesn't print as template, prints OK as object	not supported	Imports as a DrawOver as own object, displays OK text converts variably depending on original format prints OK	not supported	not supported	displays only b/w preview scale/rotate/shear prints b/w bit map on 4693D, on LW prints OK	displays OK, opens as own file edits fully, preserves templates & colors. Prints b/w map on 4693D, on LW prints OK
Image Studio 1.5	conv. to gray-scale bit map,displays OK edits fully prints OK	conv to gray-scale bit map, displays OK edits fully as a bit map prints as changed	conv colors to grays, display grays edits fully prints as changed	conv to gray-scale bit map, displays grays edits fully as bit map prints as changed	displays grays edits fully prints OK	conv to gray scale, displays grays edits fully prints grays	not supported	not supported
MacDraw II 1.0	displays OK scale/rotate as object, prints OK	displays OK edits fully prints, OK	displays hi-contrast b/w scale/rotate as object, prints only hi-contast b/w	conv colors to 8 QD colors, displays as changed edits fully, prints in 8 colors or hi-contrast b/w	not supported	not supported	not supported	not supported
PageMaker 3.01	displays OK scale/rotate as object, prints OK	displays OK Scale, crop prints, OK	displays OK scale as object, crop prints color or hi-contrast b/w	displays colors, conv some grays to patterns scale, crop prints color or hi-contrast b/w	displays OK scale as object, crop, can adjust c/b prints OK	displays faint dotty image, scale as object, crop, invert. prints hi-res dithered bit map	displays b/w or color preview scale, crop prints OK	displays b/w preview scale, crop prints OK
QuarkXpress 2.0A	displays OK scale as object, cropprints OK	displays OK scale, crop prints, OK	displays OK scale as object, crop, can adjust c/b/colors prints color or hi contrast b/w	some grays change to patterns, displays as changed scale, crop prints color or hi-contrast b/w	displays OK, some TIFFs don't import scale as object, crop prints OK	displays faint dotty image scale as object, crop, invert prints hi-res dithered bit map	displays b/w or color preview scale, crop prints OK	displays b/w preview scale, crop prints OK
Ready, Set, Go 4.5	displays OK scale as object, crop prints OK	displays ok scale, crop prints, OK	displays OK Scale, crop can print color, grays or hi-contrast b/w	displays OK scale, crop prints OK	displays halftone patterns,scale as object, crop prints OK	displays faint dotty image scale as object, crop, invert. Prints hi-res dithered bit map	displays b/w or color preview scale, crop prints OK	displays b/w preview scale, crop prints OK

ABBREVIATIONS:
b/w - black and white **c/b** - contrast and brightness **conv** - converts **hi** - high **LW** - LaserWriter IINTX **QD** - Quickdraw **rects** - rectangle **res** - resolution **4693** - Tektroni 4693D Color QuickDraw Printer

This information excerpted from an article called **Graphic Examples** by Salvatore Parascandolo, **April 1989 MacUser magazine**

Macintosh

A Quick Look at the Hewlett-Packard Scanjet Scanner

by Terry Tufts

The Hewlett-Packard Scanjet scanner is a self contained flat bed printer. You must purchase a separate interface device to adapt it to your computer. My first surprise came when I read the notice on the interface box and found I also had to purchase an additional SCSI cable and terminator before it could be properly connected to my Mac Plus. Correcting this oversight I found the documentation very thorough and I soon had the hardware connected.

The accompanying software was equally easy to install. Called Desk Gallery, it had two major desk accessories, Desk Scan and Desk Paint. DeskScan is essential, because it allows you to operate the scanner. DeskPaint allows you to manipulate scanned images after you have obtained them. These two desk accessories are installed in the conventional way, either by using the Font/da mover or using Suitcase or Juggler.

To make the installation as easy as possible they also provided a couple of other software programs that have nice touches. One utility scans the SCSI port to determine how to set up the SCSI priority switch.on the interface. Make this setting and you are ready to run the ScanJet Test program which verifies whether you have all the interconnections correct. This little program gives you the reassurance that you have done all the preparations correctly and you are ready to make your first scan.

Well now comes the fun part, scanning you first images. Open the DeskScan d/a and it gives you some selections to be made:

(The figure below shows the DeskScan desk accessory window)

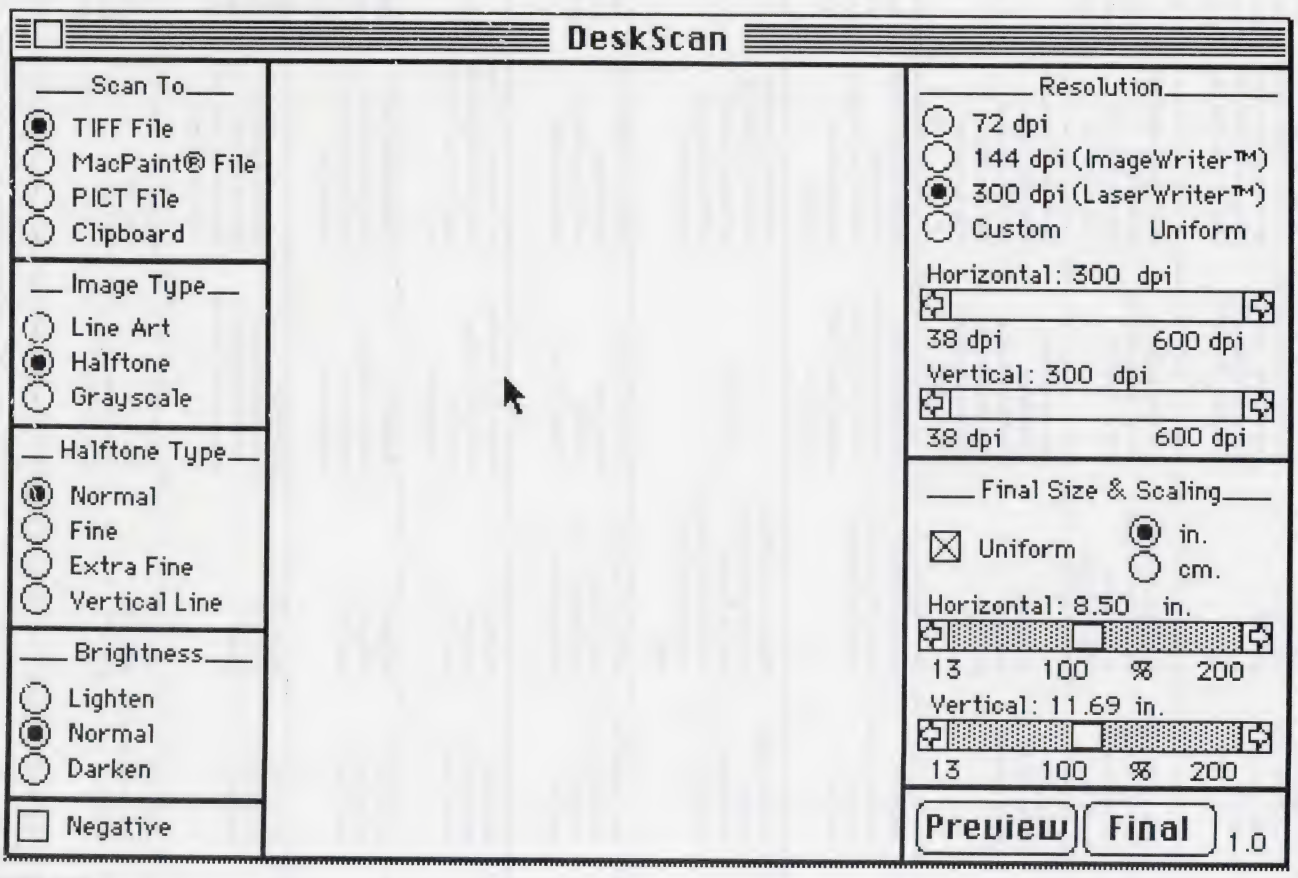


FIGURE 1.
View of DeskScan Desk Accessory prior to selecting a scan condition.

- Select the type of file format you wish to store your image in. (Your choices are: a TIFF file, a MacPaint file, a PICT file or a Clipboard file and will depend to an extent on what applications you will be using the images with).
- Select the image type that you are scanning. (You can select from Line Art, Halftone or Gray Scale.)
- If you select Halftone above, you then can select variations of Halftone Type which included: Normal, Fine, Extra fine and Vertical Line
- Next you select Brightness (Lighten, Normal or Darken) de pending on the original to be scanned.
- Select the resolution that will match the printer you will be using. (In some cases the resolution will be selected automatically when you select the file format. For instance MacPaint format supports only 72 dots/inch while all the other formats support 300 dots/inch.)

Having made these choices you are ready to do a preliminary or Preview scan by clicking the Preview button. The ScanJet will make a low resolution (39dpi) picture of the copy board that will be displayed on the Mac screen (See FIG 2). You may now examine this low resolution image and put a selection box around the part of the image that you want scanned and saved. You can elect to enlarge or reduce this selected image. Having done this, you now select the Final button. When you do this you will be asked to name the file that will be created and then the final scan will be made and stored directly to disk.

You now have your scanned image which is ready for direct use(see FIG. 3), or to be manipulated by one of the paint or draw programs into a final form. Since you control the scanning with a desk accessory, it is very easy to scan an image and insert it directly into your application. If you don't like the result you can readily redo the steps changing the settings to achieve the desired end result.

FIGURE 3.
Scanned Image

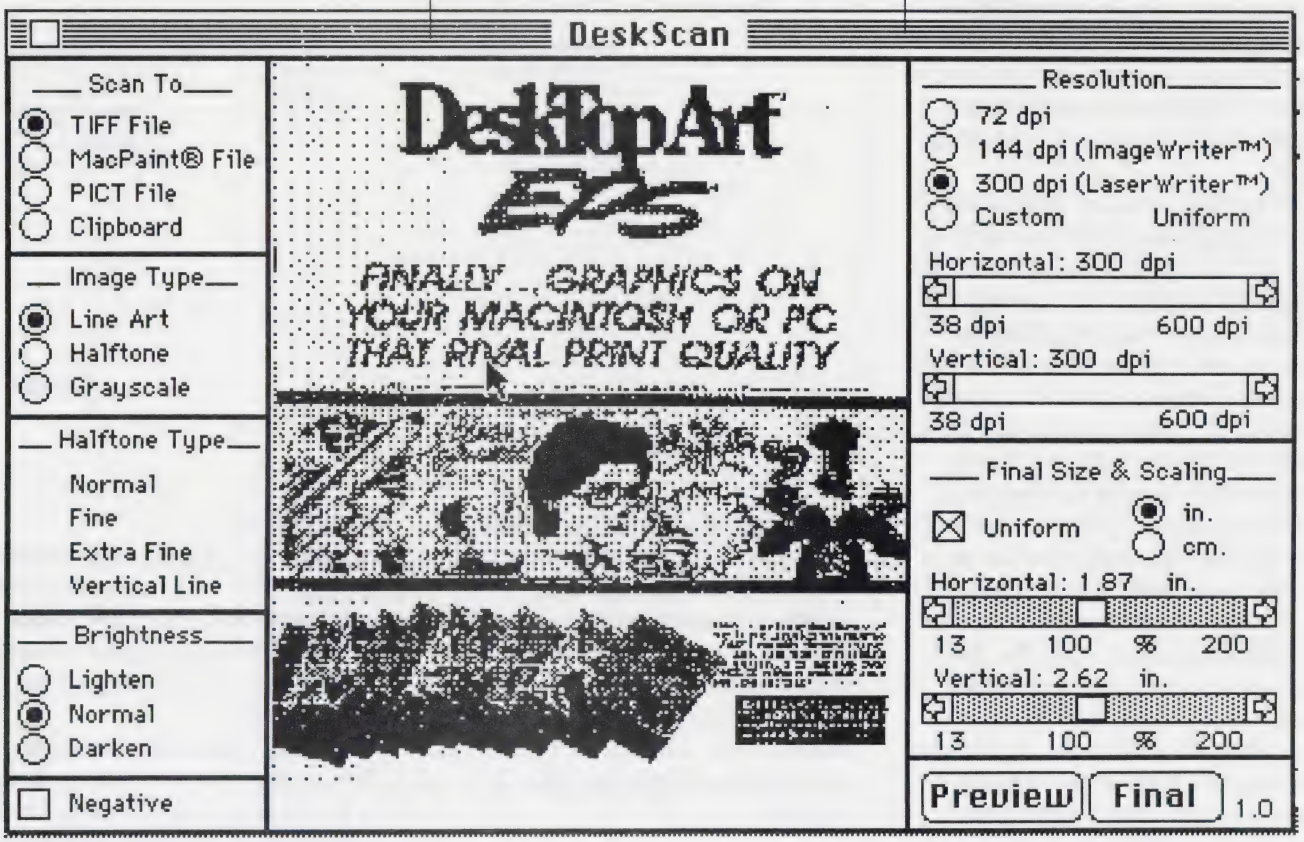


FIGURE 2
View of DeskScan with a Preview image, (selection box around the female head in middle of scanned image).

IBM

SHAREWARE TAX PREPARATION PROGRAMS

reviewed by Doug Peter, Northern Illinois Computer Society

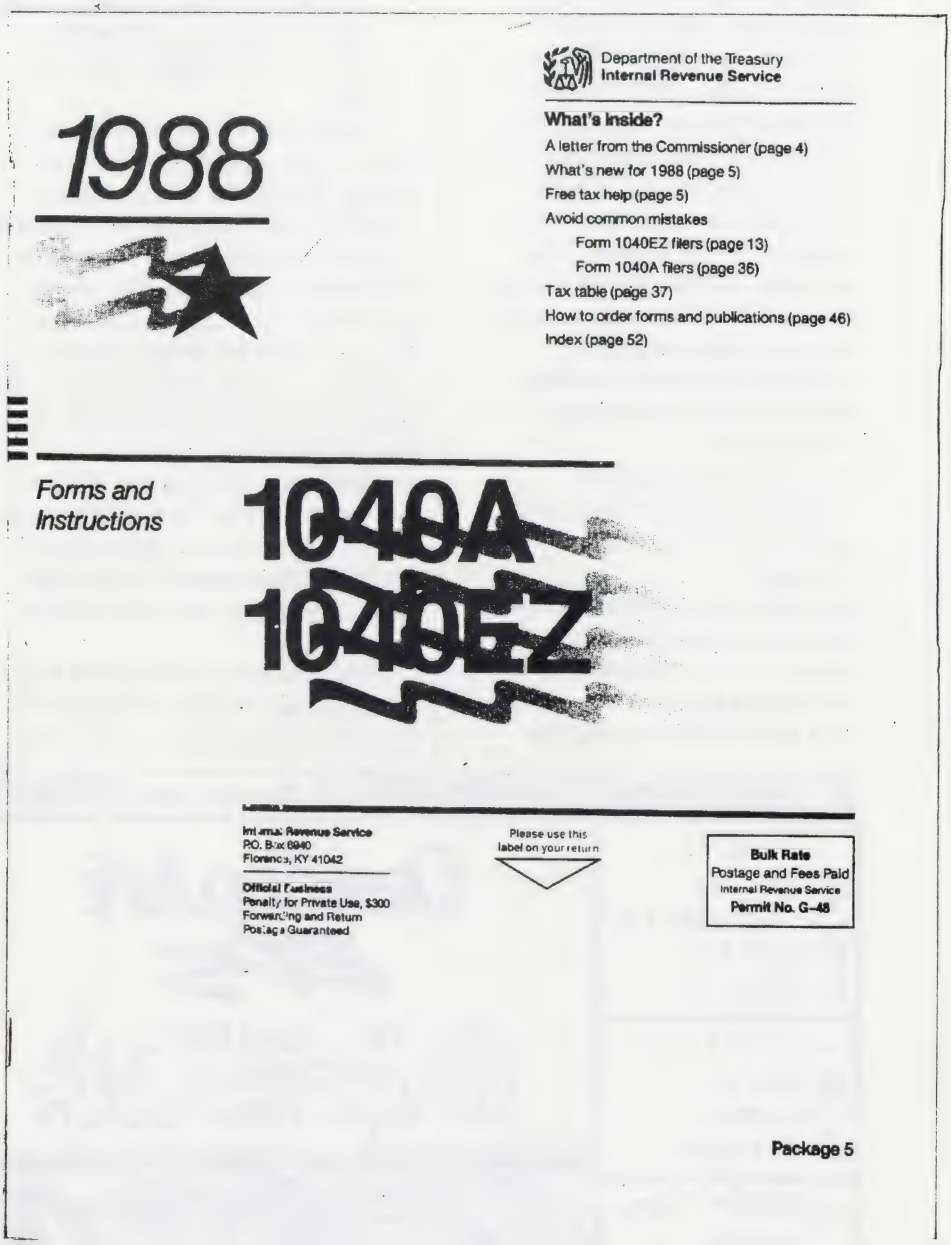
The Stainless Steel Rat said it best:

"... with the arrival of your first credit, sweat of your palms and brow, the tax man will arrive. Swooping in ever smaller circles, screaming shrilly, until he perches on your shoulder and with yellow beak bites most of the money from your grasp."

Yes, 'tis the season of the taxman. I'm sure you know how difficult it is to prepare your taxes, that's why there are so many tax-preparing businesses out there. You may also have heard of programs you can run on your PC to help you fill out your taxes. These programs may be good, but you have to shell out money for them before you know whether they're what you really need.

Now, there is another alternative. A few tax programs are on the market now as "ShareWare," which means you can get the programs from a computer club or BBS for next to nothing, try them out, and pay for them only if you use them. You are expected to pay the author of the program after using them; the author is being more than fair by letting you try them in the first place.

One note before going on: the IRS only accepts high-quality duplicates of the 1040 form (draft isn't acceptable in most cases). Draft is okay for the schedules and other forms. The three programs reviewed below have the capability of printing high-quality forms, but ONLY after you register and receive a new copy of the program. You CAN make draft printouts and copy them onto the forms later, but this isn't recommended (if you use the software, please pay for it as well).



All three tax packages come with extensive documentation on disk. The programs also take up a lot of space on disk, what with all of the schedules and forms supported. It is recommended that you have a hard drive for PC-Tax, although dual floppy operation is possible.

AM-TAX 88

AM-Tax is a great tax preparation program. It's very easy to use, with online help and descriptive menus. You hardly have to consult the documentation at all once the program is up and running.

AM-Tax data entry follows the format of the 1040 form very closely. It goes down the form line by line (11 screens in all), filling in lines for you if the value is derived from a previous

line. If you wish to itemize any given line, simply hit F6, and the appropriate schedule or form pops up. The result of the itemizing is automatically fed back into the 1040 form.

The instructions for the forms are very clear, but it's best to have the IRS instruction booklet handy so that everything is absolutely correct.

At the bottom of each screen, there is an indicator showing how much tax has been deducted from your gross wages, how much tax you still owe or have overpaid, and your current tax bracket (supposedly, you can experiment with different charities and the like to lower your bracket percentage or reduce your tax amount).

After you're through you can save your work and print it out. It prints the 1040 first (draft quality), then the schedules and forms.

The shareware version of AM-Tax is just like the commercial version, except that it only includes the 1040 form with schedules A, B, C, D, E, and SE. If you own a business or are into capital gains (real estate), you would be better off with the full-blown $60 version, which includes laser-printing, phone support, and annual updates in addition to all forms and schedules.

The program is very complete and intuitive. Preparing taxes with it is a breeze (if you have your records handy!).

SHARE-TAX 88

Share-Tax is another tax program. Like AM-Tax, it steps you through a 1040 form, but it doesn't hit the schedules or forms until after the 1040. If you like, you can skip ahead and fill out the schedules before going back and tackling the 1040 so that, as you fill in the 1040, most of it is already done for you.

This program is also easy to use and fairly intuitive, and its forms are also IRS-approved (I don't know if the 1040 is approved, but the documentation said so...) You can save your return and redo it several times, sharing one form among several returns. You can print it out (1040 first, then schedules & forms).

Like AM-Tax, Share-Tax is only a partial version of the complete program. The "parent program" of Share-Tax is called USA-Tax, and includes all forms and schedules. In Share-Tax, the forms left out are still displayed, but you can't use them. It is a good way to see what the full-blown version can do, but bad if you need to use them for evaluation.

Share-Tax comes with a test tax return already in memory, so if you want to do your personal return as a test you must first clear out all info from the test return. After that, you can enter whatever values you like.

Are the calculations accurate? I haven't had time to do a manual return to check them, but AM-Tax and Share-Tax both did my return and came up with similar results (bad news... Anybody know of a good tax shelter - QUICK?!)

PC-TAX 88

PC-Tax is a more complete program than the two above. It has all forms (including 1040A and EZ) and schedules you will need. However, it is horrendously difficult to use.

Like the other programs, it automatically copies the values from the itemizing schedules to the 1040 forms. Unlike the others, it first stores these values in its "transfer file" before copying them to the 1040.

A typical PC-Tax session goes like this:

You start up PC-Tax, which puts you in the transfer file. You edit the transfer file, putting in your name, address, SS number, etc., leaving most of the numeric fields 0. Then, you load in Schedule A (after saving the transfer file) and fill it out. You then go back to the transfer file, then load up schedule B. After filling it out, it's back to the transfer file, then load another schedule or form. While this is going on, the transfer file is slowly filling up with information from the schedules.

After you're through with the schedules, you load up one of the 1040's. At this point, most of it has already been filled out via the transfer file, so all you have to do is clean it up a bit and print it.

I'm sure that this is the most efficient way for a tax professional to do the return (only fill out what you need, then clean it up). However, the forms must be filled out one line at a time (not a screen at a time), the descriptions are short and hard to understand, and the user interface is very unfriendly on the whole (not intuitive or descriptive, no help on line).

This program seems geared to people who do many different returns, who don't mind memorizing the manual and who know what each line of every schedule is for without prompting from the program. But, it's very complete in its share-ware version.

So, which is best? I vote for AM-Tax, although Share-Tax is a close second. PC-Tax is a bit too much trouble if you only use it once a year, but if you need a schedule for capital gains or something, this has it without going through software registration, although you're probably better off paying for AM-Tax than using PC-Tax for free.

Anyway, all three are in the disk library for you to experiment with if you like. Good luck with your taxes. I won't be able to help you with the programs, I'm heading off to Argentina to escape the IRS men.

IBM

PC-Areacode and Exchequer

Left Coast Software

Reviewed by
Wes Kiel

We just received two demo diskettes from Left Coast Software for review and for sale from the publisher if anyone is interested.

PC-Areacode is a utility program to find the areacode of any city in the United States and Canada in less than two seconds. The programs data base can be searched for a specific city or you can browse through the cities for the areacode. You can also type in the areacode and the program will tell you what state it serves. This program can run as a standalone program or as a memory-resident utility. This demo is a fully functional program but is limited to areacodes for cities in one state, Georgia.

Exchequer is an easy to use checkwriting and personal accounting program targeted at personal or small business users. This demo program is fully functional but is limited to just 100 transactions in its checking register and will not print checks.

To obtain instructions for running either program, insert the appropriate diskette into a disk drive and type "GO". Documentation for both programs is contained on the diskettes. Both of these programs sell for $49.95 each and come with Left Coast's 30-day money back guarantee and 90-day free technical support.

These diskettes will be added to the IBM public domain software library.

WordPerfect: Secrets, Solutions, Shortcuts

Series 5 Edition

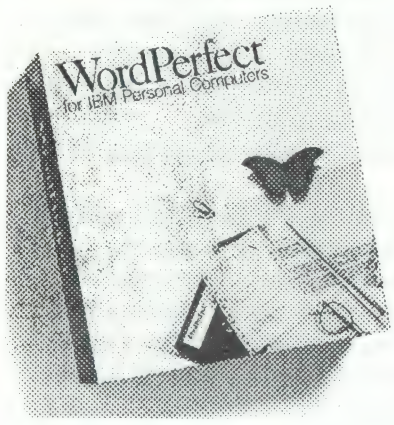
By Mella Michberg

Osborne McGraw-Hill

Book Review by Wes Kiel

This book is a well written book for the beginning user as well as the advanced user of WordPerfect. You may not know that WordPerfect has been the best selling PC or MS DOSWord Processing software the last two years. This book covers features of the program through the latest version Version 5.

The author has organized this book into two comprehensive sections. The first section covers the basic features which will be beneficial to beginning users of the program. These enable a new user to type, print and store documents efficiently. The second section focuses on the advanced



features of WordPerfect. These include the speller, thesaurus, text columns, graphics, merging, and macros. You will be able to use the program for the following:

* Desktop Publishing
* Charts and Graphs
* Producing letters with mailing labels
* Business form letters
* Invoices and financial statements
* Legal Documents

The first fifteen chapters in the first section of the book outline the basics of WordPerfect Version 5. The remaining thirteen chapters in Section II entitled "Complementary Features" of the program. This entails features such as graphics, line draw, outlining, merging files, macros, the speller and thesaurus.

This book provides extensive information for all users of the program. Each chapter includes tips, shortcuts, explains inherent traps of the software and solutions. A summary of the tips and traps covered in a chapter is repeated in an outline at the end of that chapter.

The section covering the integration of graphics into document was extensive. Many graphics can be supported by the program. However, some graphics images cannot be imported into WordPerfect directly. Many other images can be utilized after conversion into WPG format by the GRAPHCNV.EXE graphics conversion utility. Another graphics capture tool that is provided on the WorkPerfect Fonts/Graphics disk. This utility "GRAB.COM" is a Screen

Capture utility that copies an image displayed on the screen and converts them to WordPerfect useable graphics.

I would definitely recommend this book to either an beginning or an experienced user of WordPerfect. This book is published by Osborne McGraw Hill. The publisher's suggested list price is $21.95.

IBM

Microsoft PC Works

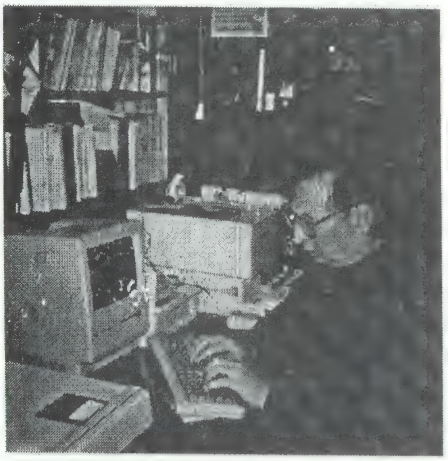
Review by Wes Kiel

Microsoft Works is a multifunctional inexpensive software package that includes word processing, spreadsheet, database, communications capabilities and graphics or charting functions with a spell checker also. This program is a MS DOS Program which will work on IBM compatible computers with a minimum of 384 Kilobytes memory and DOS Version 2.0 or higher. This program will work on a system with two 5 1/4 inch 360 K disk drives, one 720 K 3 1/2 inch disk drive or a system with a hard drive. The program will work with an optional bus or serial mouse. However, a mouse is not required.

For you AppleWorks users, Microsoft Works is very similar program with many more features for PC. This program is comparable with Software Publishing's First Choice.

The data base is basically designed as a table and can have up to 4096 records with 256 cells or fields. Both numeric and alpha-numeric information can be utilized in the data base. Several levels of sorting can be utilized within the database. You can merge fields from the database into documents written in the wordprocessing section of the program. The basic database reports are either in a table form or as a labels form. However, in conjunction with the word processor, reports can be different formats.

The spreadsheet can be used like most spreadsheet and has most of the major functions as the more expensive spreadsheets such as Lotus, Symphony, Supercalc 4, and Quatro. Microsoft Works handles the major commands a little different than Lotus or Symphony. Instead of the @ symbol before a command this program uses the = sign before the command, i.e.,



Wes Kiel doing "Harvest"page layout

@SUM(A1..E1) would be =SUM(A1...E1). Of course some of the complex functions included in the more sophisticated spreadsheets are not included with this program. However, for beginning users of this program. You can make plots or full color graphs of the information selected from your tables.

The word processing part of the program is a fairly extensive word processing program. You can format your documents for a full page, by paragraph, or by single lines. This program has drivers for most of the basic printers on the market including laser printers. As previously stated, the word processor will can be used in conjunction with the data base with mail merge to do invoices, reports, and many other documents. Forms letter or document can also be made to fill in blank from the data base.

The program also has a communications feature which allows one to send and receive data via the telephone with a modem. Of course you can upload or download files with the communications program. This software will also allow you to use your personal computer as a terminal if the system that you are connected to a host with VT52 or ANSI terminal emulation. This program will operate at 300, 1200 or 2400 baud transmission. The program will accept ASCII or binary files when properly selected. The communications software can be set up to answer calls from the outside. This program uses XMODEM Protocol error checking and correction routines.

This program can be installed using the setup or install software. Installation, of course, on a hard disk is not difficult. If you have a PC with 3 1/2 inch diskettes, you can prepare a fully useable disk with the speller and help files on one 720 K diskette. You would need to switch disks or use two drives on a 360 K disk drive system. The program works very well on any video system: monochrome, cga, ega, mcga, or vga.

For beginning computer users, I would highly recommend this program to get started with their system. For this reason, I give Microsoft Works a nine out of ten rating for this software. The program is relatively inexpensive for commercial software. Full Retail cost is $125.00. The program has extensive documentation and even a pamphlet describing your new computer system is included. The program even has Macro capabilities. One does need to get fairly well acquainted with the features of the program before trying to use the Macro capabilities.

IBM

SKI
A World File Program

Review by Wes Kiel

Are you a Skiing enthusiast? Would you like to find the best spots to stay during your skiing outings? You can access all of the World's ski meccas on your PC with this simple menu driven program.

This inexpensive program provides information about many of the worlds ski resorts, hotel, lodges and winter recreational areas. The menu driven program allows one to pick the areas that they want to visit to ski by various activities. They allow you to set guidelines and will present areas, resorts, lodging, activities that fulfil your request. You can make plans for complete tours to all resorts ranging from weekends to full 2 week stays. This disk outlines prices depending upon the type of accommodations that you select.

I feel that the program is very informative and useful and well worth the $14.95 price which can be refundable credit at a resort that will accept the certificate given with the program.

This program is a very informational program. I feel that the program is very useful and well worth the $14.95 price which can be refundable credit at a resort that will accept the certificate given with the program.

The one major drawback with the selection of interests is that the search in limited to one subject or activity at a time. However, the report given for the resorts or areas is quite extensive and can be obtained as a printed report. This program can be ordered direct from WORLD>FILE in Bronxville, New York for $14.95 plus $3.00 S/H.

Disk Technician

reviewed by Bob Barfus,
Modesto PCUG
Reprinted from the PC Post , Modesto PC Users Group, Feb 1989

If you are one of the increasing number that has taken advantage of the low price to enjoy the convenience of a hard disk, then you should also be aware that your hard disk will eventually fail. This statement is not meant to scare or intimidate you but is a cold, hard fact. Companies that manufacture these hard disks make no secret of this fact. Most all information sheets that come with hard disks list the Mean Time Between Failures (MTBF) in hours, for their hardware. This number is about 30,000 hours for the average quality hard disk. This equates to about five years for a disk that is used on a daily basis.

"ABORT-RETRY-IGNORE?, DATA ERROR, GENERAL FAILURE, ERROR READING, WRITE FAULT, BAD SECTOR, SECTOR NOT FOUND, FAT BAD" and many more of the DOS error messages can strike fear in your heart. That fear, however, can be lessened considerably by simple daily preventive measures

I have read several review of Disk Technician and a few of these reviewers have revived a dead hard disk using it.

that you, the operator, can and should take to guard against loss of your data.

The most obvious preventive measure that you should do on a frequent schedule is to back up your data. This action will at least insure that your data will be safe. If you are not presently backing up your data on a regular basis you are playing a form of Russian roulette with your data.

The second step you should take is to obtain and use one of the programs available to monitor, and in some cases repair the sectors of your hard disk. There are about a half dozen of these utilities available. This article is a review of **Disk Technician, Disk Technician +** and **Disk Technician Advanced.** All three programs work about the same with the exception of capability of each program.

Disk Technician monitors your hard disk and will advise you in advance of impending problems. When used on a daily basis it will also

In some cases Disk Technician will repair and revive for use sectors that DS has marked as bad

sectors.maintain and repair problems as they occur without bothering your programs and data. The best part is that all of this is done for you automatically by **Disk Technician**. This is possible because **Disk Technician** is written in an artificial intelligence language and compiles a database of information about your hard disk.

My first exposure to **Disk Technician** was right after I had run another utility against my hard disk. This other well know, and extremely well though of utility, gave my hard disk a clean bill o health. **Disk Technician** found and repaired 45 marginal sectors. I had noticed that my hard disk sometime took a ling time to respond to commands but I thought that was normal. Since I began to use **Disk Technician** the response was quick and sure with no error messages in over a year.

Technical support is very good.

I have read several review of **Disk Technician** and a few of these reviewers have revived a dead hard disk using it. The program accomplishes this miraculous recovery by finding and low formatting individual sectors without removing the data from them. In some cases **Disk Technician** will repair and revive for use sectors that DS has marked as bad sectors. While it will not repair worn bearings it will compensate for such hardware problems as misaligned heads and media inconsistency.

The firs time you run **Disk Technician** it will take much longer to run than normal because it is gathering data about your hard disk which it will use in subsequent sessions. The work screen is attractive and contains a wealth of information. As the program begins it's job you will see the status box begin ticking off "Testing, Cylinder 0, Head 0, 1, 2, 3, Testing, Cylinder 1, Head 0, 1, 2, 3, ..." **Disk Technician** keeps track of the date and will automatically suggest the proper test to run: daily, weekly or monthly.

I enthusiastically recommend this product for hard disk user.

DAILY tests are read-only test of the hard disk and take about four minutes on my 30 megabyte disk. If any problems are detected it will shift into a more advanced detection mode for that track.

WEEKLY tests both read and write during during testing. Weeklies take bout one hour plus on my machine.

MONTHLY tests use exhaustive read and write testing and take four hours plus on my 30 megabyte disk.

These test should be run at the end of your computing session while the hard disk is fully warmed up to operating temperature.

Disk Technician comes with SAFEPARK. SAFEPARK moves the heads to the last cylinder, which has been designated by DT for that purpose, after about 7 seconds of inactivity by the user.

Prime Solutions Markets three versions of **Disk Technician.**

Disk Technician is the first product released and is the most limited of the three. It will recognize had disks to a maximum size of 32 megabytes and will not recognize RLL controllers. It must be run from it's own copy protected disk. Retail price is $99.95.

Disk Technician + will recognize two hard disks on a single system up to 208 megabytes each. It must be run from it's own copy protected disk. Retail price is $129.95.

DISK TECHNICIAN ADVANCED is the most recent addition to this line and incorporates some very nice features. It is even more automated than it's predecessors and requires about 10 seconds of your time daily. This program will check for the optimum interleaving number for your hard disk and automatically switch your your disk to it. DTA will recognize two hard drives on a single system up to a maximum of 272 megabytes each. This program is not copy protected and will run from your harddrive although it is still recommended that you run it from a working copy on a floppy disk. Retail price is $189.95.

I enthusiastically recommend this product for hard disk user.

Prime Solutions Incorporated
1940 Garnet Avenue
San Diego, CA 92109

Happy Spring! is Coming!

Disk of the Month

Demo Programs Commercial Software

by Wes Kiel

An additional sixteen program demo program diskettes have been added to the IBM compatible system library. Most of these are demos for commercial programs. The programs fit several different categories.

Data base demos consist of Ashton Tate's dBase III+, Dataease Vers. 2.5, RBase, Rapid File-3disks,

Demo diskettes for Carbon Copy Plus and Close Up Support have been provided. Both of these programs are allow one to operate remote computers by another computer with the appropriate software. Close Up was presented in the last IBM meeting.

Two graphics program demos have been donated. These include dB Graphics and Master Graphics. Other utilitarian programs include VP Planner and Andrew Tobias' "Managing Your Money". A Wordstar demo disk is an introduction to the well know word processing program. A 3-D Animated three game demo is included. PC-Globe was also given. A two disk presentation by GM Buick Division is also included.

If anyone is interested in these demo diskettes to familiarize yourself with the features and attributes of any of these programs see your IBM public domain software librarian.

Apple IIgs Disk of the Month for March 1989

This month's goodies:

SUPERPATCH v3.1
SuperPatch is a collection of software patches for AppleWorks versions 2.0 and 2.1. SuperPatch can install or deinstall any of its patches.

DBACK
DBack is an incremental backup utility for hard disk drives, similar to, but better than, Apple's Backup //. A shareware program.

FAZ.II
A "File Attribute Zapper" than allows you to change the primary file type, auxiliary file type, and access bits of any ProDOS file.

FONTDOCTOR
A font editing utility for the IIgs. Use FONTDOCTOR to modify or create fonts for use with SuperFonts or IIgs desktop programs. Shareware.

ICONED
A IIgs icon creator and editor. With ICONED, you can modify existing icons, or create your own. Features include a "Fat Pixels" option, so you may view your icons in a larger format. Shareware.

INVERTER
A New Desk Accessory that will invert the text and background colors of the IIgs desktop in programs that do not have that option, such as Multiscribe GS, GraphicWriter and AppleWorks GS. You can change from black text on a white background to white text on a black background. Shareware.

JUMPSTART
An alternative program launcher, for people who want something faster than the IIgs Finder. Launches almost any program. Shareware.

LIFE and AUTOMATA
Two different versions of John Conway's Game of Life, which use the Super-High-Resolution graphics screens. In LIFE, you place your initial cell configuration on the screen, then start the cycle and watch as your cells multiply, survive, or die. AUTOMATA is a linear variation of the Game of Life, and exists only on a single line (not a two-dimensional field, as LIFE does). The rules are slightly modified, but the action is similar. Public Domain.

NOIZE
Version 1.3 of NOIZE, by Joe Jaworski. NOIZE presents a "slide show" of digitized sound files, either uncompressed or packed in the ACER format. A few sound files are included.

UTILITYWORKS GS LAUNCHER
Another entry in the Alternate Finder contest. This is the UtilityWorks GS Launcher, in most features similar to the JUMPSTART program. The Launcher runs under ProDOS 16 or GS/OS. Shareware.

ZANY GOLF ARCHIVAL PATCH
A text file that gives instructions for deprotecting the Electronic Arts game, Zany Golf, and how to install the program on a hard disk drive. The file includes step-by-step instructions for using Glen Bredon's BLOCK WARDEN program to make the necessary patches.

ZANY GOLF CHEAT PATCH
For those of us who can't finish under par...unlimited strokes! A BASIC file that installs or removes a "cheat patch" to Zany Golf.

ARTWORK

Design
Layout
Keyline
Paste-Up

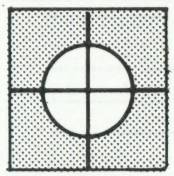
TYPESETTING

Computerized
Composition
Many Styles
And Sizes

NEGATIVES

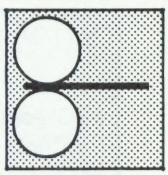
STRIPPING

PLATEMAKING



Separations
Bluelines
Chromalins
Photostats

OFFSET PRINTING



Publications
Carbonless Forms
Catalogs
Corporate Identity

NCI
NEWPORT COLOR INC.

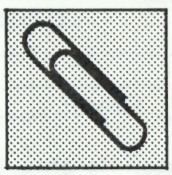
Newport Color Inc.

PRINTERS & LITHOGRAPHERS

FULL COLOR LITHOGRAPHY

Annual Reports
Advertising
Brochures
Manuals
Packaging

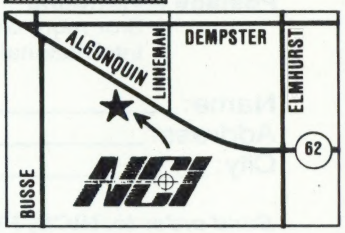
BINDERY



Stitched & Perfect
Folding
Collating
Perforating
Padding

OTHER SERVICES

Embossing
Die Cutting
Crash Numbering
Shrink Wrapping
Delivery



1229 East Algonquin Road
Arlington Heights, IL 60005-4711

593-5515

Northern Illinois Computer Society

Public Domain Disk Order Form

NICS Membership expiry date:_____ (mandatory)

Our low prices are good for members only. Non member prices are $10/disk. If you wish to join at the same time as you order disks, please fill out the membership form on the reverse side. All orders must include $2.00 postage and handling, and be prepaid with check or money order to NICS (no charge cards or purchase orders accepted).

Specify which User Group Library you are ordering from
☐ Apple //, ☐ Apple //GS, ☐ Macintosh, ☐ IBM. (Check one).

Single disk
Disk Name _____ Disk Number _____ $4.00= _____

Three disk set
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____ $10.00= _____

Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____ $10.00= _____

Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____ $10.00= _____

Ten Disk set
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____
Disk Name _____ Disk Number _____ $30.00= _____

Postage & Handling 1 or 2 disks (All orders) $2.00 = $2.00
3 or more disks (Additional) $3.00 = _____
International Airmail (if applicable) $10 = _____
Total Enclosed: _____

Name: _____
Address: _____
City: _____ State: _____ Zip: _____

Send order to: **NICS, PO Box 547, Arlington Heights, IL 60005**
Allow 2-4 weeks for delivery. Orders shipped US Mail or UPS.

Northern Illinois Computer Society Membership Application

Return this completed application with your check made payable to:
Northern Illinois Computer Society • P.O. Box 547 • Arlington Heights, IL 60006
(312) 824-2650 Recorded Message, (312) 351-4374 Bulletin Board (modem)

U. S.: ☐ New $30 ☐ Renewal $24 Expiry Date _____

Foreign: ☐ New (surface mail) $45 all ☐ New UK Air $ 60 ☐ New all non-UK $ 70
Renewal -subtract $ 6 from above.

Name _____ Phone [_____] _____

Address _____

City _____ State _____ Zip _____

Please indicate which is the computer of your major interest [ ] Apple //, +,c,e [ ] Apple //gs [ ] Macintosh [ ] IBM / Clones [ ] Other_____

For internal use only

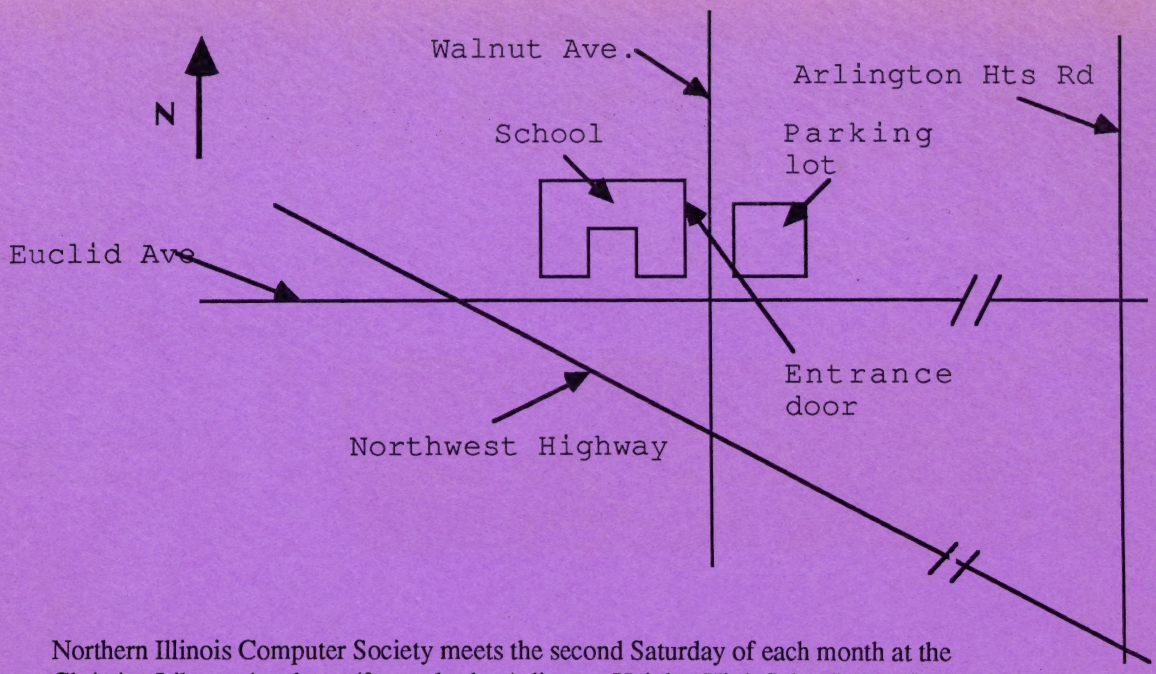
( ) Check
( ) Check #

Amount $

Date

( ) New member Pack
( ) Membership Card
( ) Harvest Mo.

( ) By _____



Northern Illinois Computer Society meets the second Saturday of each month at the Christian Liberty Academy (formerly the Arlington Heights High School) 502 West EuclidAvenue, Arlington Heights. Visitors are welcome. Bring a Friend.

Meeting times are 10:00 a.m. to 1:00 p.m.

Advertising

1. General Advertising Rates

Black and White only:

Size	
Full Page	$55
Half Page	$30
1/4 Page	$16
1/8 Page`	$9

2. Terms

Payment must accompany copy.

3. Copy and Contract Regulations

All advertising is subject to the publishers approval. The Publisher reserves the right to reject any advertising which s/he feels is not in keeping with the publication's standards.The advertiser and advertising agency assume liability for all content (including text, representations and illustrations) of advertisment pdrinted and also assume responsibility for any claims arising therefrom against the publisher. Adversisements that simulate editorial content are not accepted.

4. Advertising Deadlines

Advertising material must be at the address listed below by the 3rd Monday of the month preceding publication. Space is limited and will be allotted on a first come first basis.

5. Mechanical Requirements

All dimensions are in inches

Unit	Vertical	Horizontal
Full page	10	7 1/2
1/2 page	10	3 1/2
1/4 page	4 3/4	3 1/2
1/8 page	2 1/4	3 1/2

6. Material REquirements

All copy is to be black and white camera ready.

7. Address

Editorial Office:
1015 S. Ridge Ave.,
Arlington Heights, IL 60005

The Harvest Journal
Northern Illinois Computer Society
1015 S. Ridge Avenue
Arlington Heights, IL 60006

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Suncoast Apple Tree
PO Box 7488
Clearwater Fl 34618

POSTMASTER -DATED CONTENTS
-ADDRESS CORECTION REQUESTED

Coming Events

Apple // Users Group

March
Tax Program-John Butler

Apple // GS U G

March
Bulletin Boards

April
Introduction to IIGS
- Basic Questions & Answers

May
- Graphics & Graphic Conversion programs

Macintosh U G

March
FileMaker-Dick Roetter
ShareWare - HyperEstimator

IBM/Lookalikes/UC

March
Public Domain Tax Programs

Unclassified Advertising

Wanted
COBOL Programmer/Analyst
Full time - top $$$$
5yrs. + Experience required
Honeywell COBOL + TDS a plus
Starting Md-March/April

Send resume to:
Target Systems & Assoc.
P.O. Box 1926
Arlington Hts. IL 60006